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Republic of Latvia

Cabinet

Regulation No. 362

Adopted 2 May 2006

## **Regulations Regarding Utilisation, Monitoring and Control of Sewage Sludge and the Compost thereof**

*(Minutes No. 25, Paragraph 32)*

*Issued pursuant to  
Section 11, Paragraph two,  
Clause 11  
of the Law On Pollution*

### **I. General Provisions**

1. These Regulations prescribe the procedures for the utilisation, monitoring and control of sewage sludge and the compost thereof.
2. Sewage sludge is colloidal sediment resulting from the treating of municipal, domestic and industrial sewage in treatment plants, as well as depositions from septic tanks and other similar plants for sewage treatment.
3. Sewage sludge compost (hereinafter – compost) is a decomposition product of sewage sludge and various materials of plant origin (peat, leaves, straw, saw dust and other landfill materials) that has been obtained as the result of human impact on active aerobic microbiological activity.
4. Sewage sludge shall be divided in the following way:
  - 4.1. treated sludge – sludge which has been subjected to at least one of the following types of processing:
    - 4.1.1. storage, also in a liquid form, for at least 12 months (cold fermentation) without blending and relocation during storage;
    - 4.1.2. mesophilic anaerobic decomposition at a temperature of 35<sup>0</sup>C (± 3<sup>0</sup>C), minimum duration of treatment – 21 (± 5) days;
    - 4.1.3. thermophilic anaerobic decomposition at a temperature of 55<sup>0</sup>C (± 5<sup>0</sup>C), minimum duration of treatment – 10 days;
    - 4.1.4. thermophilic aerobic stabilisation at a temperature of 55<sup>0</sup>C (± 5<sup>0</sup>C), minimum duration of treatment – 10 days;
    - 4.1.5. composting during which the temperature inside the pile, 50 cm from the upper layer of the pile, shall be not less than 60<sup>0</sup>C for at least three days;
    - 4.1.6. lime treatment to pH 12 or more, the temperature must be at least 55<sup>0</sup>C for no less than two hours following the treatment;

- 4.1.7. pasteurisation for at least 30 minutes at a temperature of 70<sup>0</sup>C; and
- 4.1.8. drying approximately at 100<sup>0</sup>C until the dry matter in the sludge mass reaches at least 70%; and
- 4.2. non-treated sludge – sludge that has not been subject to any of types of treatment specified in Sub-paragraph 4.1 of these Regulations.

## II. Determination of the Quality of Sewage Sludge and Compost

5. Determination of the quality of sewage sludge and compost shall be ensured by:
- 5.1. a producer of sewage sludge – a legal or natural person, who manages sewage treatment plants during the technological processes of which sewage sludge is generated; and
  - 5.2. a producer of compost – a legal or natural person, who utilises sewage sludge for the preparation of compost.
6. The quality of sewage sludge shall be determined for each batch of sewage sludge (a mass of sewage sludge with a uniform chemical composition, similar physical and other features), forming one average sample in accordance with Annex 1 to these Regulations.
7. The quality of compost shall be determined for each batch of compost (the mass of the compost that is made up of sewage sludge and landfill materials of plant origin and does not exceed 1 000 tonnes at the commencement of composting). For determination of the quality of a compost batch one average sample shall be formed in which at least 25 individual samples are combined.
8. In a laboratory that has been accredited in the State Agency *Latvian National Accreditation Bureau* in conformity with the Latvian national standard LVS EN ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories or another notified body of the European Union Member State regarding which the Ministry of Economics has published a notification in the newspaper *Latvijas Vēstnesis* [the official Gazette of the Government of Latvia] and in which the methods referred to in Annex 2 to these Regulations are used, the following shall be determined for the average sample of sewage sludge or a compost batch:
- 8.1. mass concentration in dry matter of the heavy metals – cadmium (Cd), chrome (Cr), copper (Cu), mercury (Hg), nickel (Ni), lead (Pb) and zinc (Zn);
  - 8.2. the content of dry matter and agrochemical indicators – environment reaction and mass concentration of organic substances, nitrogen (N) and phosphorus (P) in the dry matter; and
  - 8.3. mass concentration of ammoniacal nitrogen (N-NH<sub>4</sub>) in dry matter shall be determined before the use of sewage sludge or compost in agriculture for soil fertilisation. If after the production of the batch of sewage sludge or compost more than 12 months have passed, then prior to the use of this batch, dry matter and ammoniacal nitrogen shall be determined repeatedly.
9. If the load of sewage treatment plant does not exceed 5 000 population equivalent (PE) and only municipal sewage is treated therein, the mass concentration of heavy metals in sewage sludge and the compost produced of such sewage sludge need not be determined.
10. The producer of sewage sludge and the producer of compost, on the basis of the obtained quality indicators of sewage sludge and compost, shall draw up a relevant certificate for each

batch of sewage sludge or batch of compost in accordance with Annexes 3 and 4 to these Regulations (hereinafter – quality certificate).

11. The producer of sewage sludge and compost shall issue a copy of the quality certificate to the user of the sewage sludge and compost – a legal or natural person, who is engaged in the storage, utilisation and burial of sewage sludge and compost.

12. The producer of sewage sludge and the compost thereof shall:

12.1. register the quality certificate of each batch in a special register (Annex 5); and

12.2. keep the quality test reports of sewage sludge and compost and the originals of the quality certificates, as well as the register for at least 10 years.

13. The classification of sewage sludge and compost is prescribed in Annex 6 to these Regulations. Sewage sludge of Class 5 shall be considered as hazardous waste. All activities involving sewage sludge of Class 5 shall be carried out in conformity with the regulatory enactments regarding management of waste.

14. The class shall not be determined for sewage sludge that has been obtained by treating only municipal sewage and for composts prepared from such. In the quality certificate, the box “klase” [class] shall contain - “sadzīves notekūdeņu dūņas” [municipal sewage sludge] or “sadzīves notekūdeņu dūņu komposti” [municipal sewage sludge compost].

### **III. Temporary Storage of Sewage Sludge and Compost at the Place of Utilisation**

15. If on the day of delivery it is not possible to utilise the sewage sludge or compost for the intended purpose, they shall be placed for storage at the place of utilisation. Places for temporary storage of sewage sludge and compost, as well as places for the preparation of compost may not be located:

15.1. nearer than 150 m from residential houses and undertakings of food processing and food trade;

15.2. in locations where it is prohibited in accordance with the regulatory enactments regarding protective territories;

15.3. in specially protected nature territories, except the neutral zones thereof, and micro-reserves, as well as nearer than 150 m from the borders thereof;

15.4. nearer than 150 m from the locations of water intakes;

15.5. nearer than 100 m from the shoreline of a body of water or a watercourse;

15.6. in flood territories; and

15.7. on slopes the gradient of which is more than 5°.

16. Sewage sludge or compost shall be placed for temporary storage and compost shall be prepared for such purpose in a stationary place specially provided and organised, preventing sewage sludge and compost, as well as filtrating water, from entering the soil, surface waters and ground waters. In stationary places for temporary storage, sewage sludge or compost may be stored not longer than for three years. If sewage sludge is stored for longer than three years, it shall be done in conformity with the regulatory enactments regarding waste management.

17. If sewage sludge or compost is placed for temporary storage or compost is prepared in a place that does not conform to the requirements referred to in Paragraph 16 of these Regulations, it shall be organised in accordance with the following procedures:

17.1. a level area shall be selected where the level of ground water is at least one meter from the ground surface during the storage of sewage sludge or compost, or during the preparation of compost; and

17.2. prior to placing sewage sludge or preparing compost in places complying with the requirements referred to in Sub-paragraph 17.1 of these Regulations, an at least 30 cm thick mat of saw dust, peat, straw or other similar materials of plant origin shall be established.

18. In places of temporary storage of sewage sludge or preparation of compost that are organised in conformity with the requirements specified in Paragraph 17 of these Regulations, sewage sludge and compost may be stored for not longer than one year.

19. Places for the temporary storage of sewage sludge or compost and the preparation of sewage sludge compost that are organised in conformity with the requirements specified in Paragraph 17 of these Regulations may be utilised repeatedly. If such places are utilised at least twice and the utilisation thereof has been suspended, the user of sewage sludge or compost shall co-ordinate the further utilisation of the relevant area with the regional environmental board of the State Environmental Service (hereinafter - regional environmental board), taking into account the content of heavy metals in soil.

20. Treated sewage sludge, the contents of dry matter of which at the moment of placement is at least 25%, or compost may be stored in a place for temporary storage of sewage sludge that conforms with the requirements specified in Sub-paragraph 17.1 for no longer than one month. The place for temporary storage of sewage sludge shall be utilised only once for such purpose.

21. Overgrowing with weeds of the sewage sludge and mass of compost, as well as a five meters wide area adjacent thereto, is not permissible in places for the temporary storage of sewage sludge or compost.

#### **IV. Utilisation of Sewage Sludge and Compost for Soil Fertilisation of Agricultural Lands**

22. Prior to the cultivation of sewage sludge and compost to agricultural lands, the producer or the user of sewage sludge shall ensure that a laboratory that has been accredited in the State Agency *Latvian National Accreditation Bureau* in conformity with the Latvian national standard LVS EN ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration of Laboratories or in a body of another European Union Member State regarding which the Ministry of Economics has published a notification in the newspaper *Latvijas Vēstnesis* and in which the methods referred to in Annex 7 to these Regulations are used determines the following indicators in the average sample of the surface layer of soil:

22.1. the mass concentration of heavy metals – cadmium (Cd), chrome (Cr), copper (Cu), mercury (Hg), nickel (Ni), lead (Pb) and zinc (Zn); and

22.2. environment reactions pH KCl.

23. An average sample of the surface layer of soil shall be formed by mixing at least 25 individual samples taken from an area that does not exceed 5 ha. Individual samples of soil shall be taken from the upper part of the humus horizon at a depth of 25 cm. If the humus

horizon is thinner, individual samples shall be taken throughout its density, but not shallower than 10 cm. The granulometric composition group of the soil surface layer shall be determined simultaneously with the taking of samples.

24. The concentration of heavy metals in soil shall be determined prior to the first and prior to each fifth cultivation of sewage sludge and the compost thereof in the same area.

25. If sewage sludge from the treatment plants referred to in Paragraph 9 of these Regulations, is utilised for soil fertilisation, mass concentration of heavy metals in soil need not be determined.

26. The mass concentration of heavy metals in soil, prior to the cultivation of sewage sludge or compost, shall not exceed the concentration limits referred to in Paragraph 8 of these Regulations.

27. The most recent materials of agrochemical examination of soil may also be utilised for the acquisition of the soil environment reaction pH KCl indicator, if such materials are not older than five years.

28. Sewage sludge or compost may not be applied to soil the reaction pH KCl of which in the surface layer is less than 5.

29. Treated sewage sludge, as well as compost which has been prepared from treated and non-treated sewage sludge and to which the concentration of heavy metals in the dry matter does not exceed the limiting concentrations referred to in Annex 9 to these Regulations, may be utilised for the fertilisation of soils in agricultural land. Sewage sludge and compost may also be utilised for the fertilisation of soils when the concentration of no more than three heavy metals exceeds the limiting concentration by not more than 10%.

30. The limit values of the annual emission of heavy metals, ammoniacal nitrogen and total phosphorus shall be the maximum mass of these substances which may be cultivated on average per year in one hectare of soil with sewage sludge or compost. The limit values of annual emissions of heavy metals are specified in Annex 10 to these Regulations, but the limit values of annual emission of ammoniacal nitrogen and total phosphorus – in Annex 11 to these Regulations.

31. Such mass of heavy metals (determined for each heavy metal separately), ammoniacal nitrogen and total phosphorus may be cultivated in soil at the same time with sewage sludge or compost that does not exceed the limit values of emission of five years.

32. The maximum portion of sewage sludge or compost to be cultivated at one time shall be calculated observing the limit values of annual emission referred to in Annexes 10 and 11 to these Regulations and the requirements specified in Paragraph 31 of these Regulations. It is permitted to cultivate the least portion of the calculated portions of sewage sludge or compost in soil.

33. If the producer of sewage sludge or compost and the user of the fertiliser thereof agree on utilisation of sewage sludge or compost for the soil fertilisation, a relevant written certification shall be drawn up regarding the utilisation of sewage sludge or compost (hereinafter - certification), on the basis of the following documents:

- 33.1. a copy of the quality certificate of a batch of sewage sludge or compost;
- 33.2. research materials of the area soils, in which the indicators referred to in Paragraph 22 of these Regulations are present; and
- 33.3. cartographic material (scale 1:10 000 or 1:5 000) with the areas marked in which it is intended to cultivate sewage sludge or compost.

34. If sewage sludge or compost is cultivated repeatedly in the relevant area, only a copy of the quality certificate of sewage sludge or compost batch shall be attached to the certification.

35. The following shall be indicated in the certification:

- 35.1. the amount of sewage sludge or compost;
- 35.2. the area intended for the cultivation;
- 35.3. the maximum permissible portion of dry matter and naturally wet sewage sludge or compost for the cultivation; and
- 35.4. agricultural crops to be cultivated on the first year after the cultivation of sewage sludge or compost.

36. The producer of sewage sludge or compost shall number and register each certification in a special register (Annex 5). The register shall be maintained and kept by the producer of sewage sludge or compost. The originals of certifications and the register after the completion thereof shall be kept for at least 10 years.

37. The producer of sewage sludge or compost, prior to the cultivation of sewage sludge or compost, shall calculate the maximum permissible proportion of naturally wet sewage sludge or compost and shall notify the user of sewage sludge or compost regarding it.

38. Following dispersion on a field, sewage sludge shall be cultivated in soil within a period of three days. Sewage sludge shall not be dispersed in the period of time from 15 December until 1 March.

39. Sewage sludge and compost may not be dispersed and cultivated:

- 39.1. on slopes the sloping surface of which is more than 7°;
- 39.2. on frozen or snow covered soil;
- 39.3. in flood and flood endangered territories;
- 39.4. nearer than 100 m from individual locations of water intakes;
- 39.5. nearer than 100 m from residential houses, undertakings of food processing and food trade; or
- 39.6. nearer than 50 m from the shoreline of a body of water or watercourse; and in locations where it is prohibited in accordance with the regulatory enactments regarding protective territories.

40. If agricultural areas are located in specially protected nature territories, the utilisation of sewage sludge and compost shall be co-ordinated with the regional environmental board.

41. Sewage sludge and compost may not be utilised:

- 41.1. for growing vegetables and berries in covered areas;
- 41.2. for growing potatoes, vegetables and berries in open field that is less than 0.10 ha;
- 41.3. as surface fertiliser and row fertiliser during the vegetation period of food and animal feed crops; and

41.4. as surface fertiliser in grazing in the year of use thereof, except for cases when the sward is renewed by the re-ploughing of soil and sewage sludge and the compost thereof are cultivated into the soil.

42. A time period between the cultivation of sewage sludge and compost into the soil and the harvesting of agricultural plants shall not be less than:

42.1. ten months when growing fruits and berries in an open field, as well as tuber roots, potatoes and vegetables that are in direct contact with soil; and

42.2. three months when growing other agricultural plants except perennial grasses which are utilised for mowing or grazing.

43. In areas of perennial grasses, which are utilised for mowing or grazing, sewage sludge or compost shall be dispersed after the last vegetation period of hay harvesting or grazing.

## **V. Utilisation of Sewage Sludge and Compost in Forestry**

44. Only treated sewage sludge and compost may be utilised for the conditioning and fertilisation of soil in forestry.

45. For the characterisation of the quality of each batch of sewage sludge and the compost thereof, the contents of dry matter and mass concentration of heavy metals shall be determined in conformity with Annex 2 to these Regulations.

46. Such sewage sludge and compost shall be utilised in forestry, the mass concentration of heavy metals in dry matter of which does not exceed the concentration limits referred to in Annex 9 to these Regulations.

47. Treated sewage sludge and compost may be utilised in plantation forests, but for afforestation of low fertility sands, degraded areas of forest soil and burned-out forests – only compost.

48. When utilising sewage sludge or compost in forestry:

48.1. sewage sludge and compost shall be cultivated into the soil; and

48.2. the utilisation of sewage sludge for surface fertilisation is not permissible.

49. Such mass of heavy metals may be cultivated into the soil at one time with sewage sludge or compost (shall be determined separately for each heavy metal) that does not exceed limit values of emission of five years.

50. The research of soil prior to the cultivation of sewage sludge or compost shall not be necessary.

51. If the producer of sewage sludge or compost and the user of the fertiliser thereof agree on utilisation of sewage sludge or compost for the soil fertilisation in forestry, a written certification shall be drawn up on the basis of the following documents:

51.1. a copy of the quality certificate of the batch of sewage sludge or compost; and

51.2. cartographic material (scale 1:10 000 or 1:1 500) with marked territories in which the cultivation of sewage sludge or compost is intended.

52. If the area, which is intended to be fertilised with sewage sludge or compost is located in a specially protected nature territory, the requirements referred to in Paragraph 40 of these Regulations shall be observed.

53. The following shall be indicated in the certification:

53.1. the type of utilisation of sewage sludge or compost;

53.2. the amount of sewage sludge or compost;

53.3. the area intended for the cultivation; and

53.4. the maximum permissible portion of dry matter and naturally wet sewage sludge or compost for the cultivation.

54. The producer of sewage sludge or compost, prior to the cultivation of sewage sludge or compost, shall ensure the calculation of the portion of maximum permissible naturally wet sewage sludge or compost and notify the user of such fertiliser regarding it.

55. Each certification shall be numbered and registered by the producer of sewage sludge or the producer of compost in a special register, which shall be maintained and kept in accordance with Paragraph 36 of these Regulations.

## **VI. Utilisation of Sewage Sludge and Compost for the Greening of Territories**

56. Greening is decorative arrangement or the arrangement for a special purpose of perennial grasses, trees, bushes and flower plantings.

57. When performing the greening of territories:

57.1. such sewage sludge and compost may be utilised where the mass concentration of heavy metals in the dry matter does not exceed the indicators conforming with Class 2; and

57.2. such sewage sludge may be utilised that has been stored for one year with a dry matter content of at least 25% and without an unpleasant odour.

58. If sewage sludge or compost is utilised for the greening of a territory:

58.1. the limit values, referred to in Annex 10 to these Regulations, of an annual emission of heavy metals cultivated in soil with sewage sludge or compost may be increased to 50%; and

58.2. at one time only such mass of heavy metals may be cultivated in soil that does not exceed the limit values of seven years emission.

59. Sewage sludge that is utilised for the greening of territories shall be cultivated in soil within a time period of 24 hours after dispersion.

60. If the producer of sewage sludge or compost and the user of the fertiliser thereof agree on the utilisation of sewage sludge or compost for the greening, a written certification shall be drawn up on the basis of the following documents:

60.1. a copy of the quality certificate of the batch of sewage sludge or compost; and

60.2. the cartographic material (in scale of 1:500 or 1:1 000) of the relevant territory with the areas marked in which it is intended to cultivate sewage sludge or compost.

61. The following shall be indicated in the certification:

61.1. the amount of sewage sludge or compost;



- 61.2. the area intended for the cultivation; and
- 61.3. the maximum permitted portion of dry matter and naturally wet sewage sludge or compost for the cultivation.

62. Each certification shall be numbered and registered by the producer of sewage sludge or compost in a special register, which shall be maintained and kept according to the procedures specified in Paragraph 36 of these Regulations.

63. The producer of sewage sludge or compost, prior to the cultivation of sewage sludge or compost, shall calculate the maximum permitted portion of naturally wet sewage sludge or compost and shall notify the user of such fertiliser regarding it.

## **VII. Utilisation of Sewage Sludge and Compost for the Recovery of Degraded Areas**

64. Degraded areas are areas with destroyed soil cover that have resulted from the mining of loam, sand, gravel and other mineral resources by an open-cut method (in quarries), performing earthworks in construction, as well as other work related to the destruction of the soil cover.

65. Recovery is a combination of amelioration, clearing of land and agrotechnical measures in order to renew the soil cover of degraded areas.

66. Such sewage sludge and compost may be utilised for the recovery of degraded areas the mass concentration of heavy metals in the dry matter of which does not exceed the limit concentrations referred to in Annex 9 to these Regulations.

67. Prior to the deposition of sewage sludge or compost in relevant areas, the manager of the degraded areas shall determine the following indicators:

- 67.1. the granulometric composition group of the soil surface layer of 25 cm; and
- 67.2. the environment reaction pH KCl.

68. Sewage sludge or compost may not be utilised for the recovery of degraded areas if:

- 68.1. the reaction indicator pH KCl of the soil surface layer is less than 5.0; or
- 68.2. the area to be recovered is permanently or temporary flooded.

69. Portions of dry matter of sewage sludge or compost that do not exceed the limit portions referred to in Annex 12 to these Regulations may be utilised for the recovery of degraded areas.

70. If in a worked-out peatery there is still at least 5 cm thick peat layer prior to the cultivation of sewage sludge or compost, then, when recovering such areas:

- 70.1. the environment reaction pH KCl shall be determined separately for the remaining peat layer and for the mineral soil beneath it; and
- 70.2. the granulometric composition group shall be determined for the mineral soil.

71. Sewage sludge and compost shall be utilised for the recovery of degraded areas in conformity with the specially developed project of recovery for the particular area in which in addition to other indicators shall be indicated information regarding:

71.1. the granulometric composition of the soil surface layer and environment reaction of the degraded area; and

71.2. the materials of hydro-geological research of the degraded area (lithological features of soil for aeration zone and confining bed, flow direction of underground waters, consumers of ground waters within a radius of 0.5 km).

72. if the producer of sewage sludge or compost and the manager of degraded areas agree on the utilisation of sewage sludge or compost for recovery of degraded areas, a written certification shall be drawn up on the basis of the project of recovery and the copy of the sewage sludge quality certificate or compost quality certificate.

The following shall be indicated in the certification:

73.1. the amount of sewage sludge or compost;

73.2. the area intended for the cultivation; and

73.3. the maximum permitted portion of dry matter and naturally wet sewage sludge or compost for cultivation.

74. The producer of sewage sludge or compost, prior to the cultivation of sewage sludge or compost, shall calculate the maximum permitted portion of naturally wet sewage sludge or compost and shall notify it to the manager of degraded areas.

75. Each certification shall be numbered and registered by the producer of sewage sludge or compost in a special register (Annex 5) which shall be maintained and kept in accordance with Paragraph 36 of these Regulations.

### **VIII. Utilisation and Burial of Treated Sewage Sludge and Compost in Waste Landfill Sites and Dumps**

76. Treated sewage sludge, which conforms to the criteria for waste acceptance at waste landfill sites, may be buried in waste mass at waste landfill sites in accordance with the regulatory enactments regarding waste management, if the dry matter content of treated sewage sludge is at least 15%.

77. Treated sewage sludge and compost, which conforms to the criteria for waste acceptance at hazardous waste landfill sites, as well as Class 5 of sewage sludge and the compost thereof, may be buried in waste mass at hazardous waste landfill sites in accordance with the regulatory enactments regarding waste management.

78. Sewage sludge (except sewage sludge of Class 5) compost may be utilised for the recovery (covering) of dumps and landfill sites after a complete or partial closing of the waste landfill site or dump in accordance with the regulatory enactments regarding waste management, if the quality indicators of compost conform with Class 1, 2, 3 or 4.

### **IX. Environmental Monitoring of Utilisation of Sewage Sludge and Compost**

79. The Latvian Environment, Geology and Meteorology Agency shall perform environmental monitoring of the utilisation of sewage sludge and compost in areas to be utilised for agriculture in conformity with the National Environment Monitoring Programme.

## **X. Records of the Produced Mass, Quality and Utilisation of Sewage Sludge**

80. The producer of sewage sludge shall maintain records of the mass, quality and utilisation of each batch of sewage sludge and enter the relevant data in a register that has been specially drawn up in accordance with Annexes 13 and 14 to these Regulations.

81. The register shall contain individual record sheets in which data shall be entered regarding:

81.1. the mass, quality and utilisation of each batch of sewage sludge produced in the accounting year (Annex 13); and

81.2. the utilisation (burial) of sewage sludge, produced in previous years, in the accounting year (Annex 14).

82. The register shall be kept for at least 10 years.

83. In conformity with the data entered in the register, the producer of sewage sludge shall prepare and submit to the regional environmental board a summary regarding:

83.1. the mass, quality and utilisation or burial of sewage sludge produced during the accounting year;

83.2. the mass of dry matter of treated or non-treated sewage sludge at the end of the accounting year, as well as the type of the sewage sludge treatment;

83.3. the mass of dry matter of Class 5 sewage sludge, produced during the accounting year; and

83.4. the utilisation or burial of the mass of sewage sludge in the accounting year that was produced but not utilised or buried in previous years, as well as the remainder thereof at the end of the accounting year.

84. Regional environmental boards shall prepare the data summary referred to in Paragraph 83 of these Regulations and submit it to the Latvian Environment, Geology and Meteorology Agency for the compilation of information.

## **XI. Supervision and Control**

85. The State Environmental Service shall perform the supervision and control of the storage, utilisation, burial and monitoring of sewage sludge and compost in the field of compliance with the requirements of environmental protection.



### Procedures for Formation of an Average Sample of Sewage Sludge in Treatment Plants

No.	Load of sewage treatment plants PE (population equivalent)	Number of average samples per year	Time period for the formation of an average sample (in months)	Regularity of the taking of individual samples	Number of samples to be tested per year		
					for determination of heavy metals*	for determination of agrochemical indicators	for determination of the dry matter content**
1.	< 2 000	1	12	twice a month	1***	1	2
2.	2 001-5 000	1	12	twice a month	1***	1	4
3.	5 001-10 000	2	6	three times a month	2	1	6
4.	10 001-50 000	3	4	once a month	3	2	12
5.	50 001-100 000	4	3	every third day	4	3	24
6.	> 100 000	12	1	every day	12	4	52

Notes.

- 1.\* If during the last two years the concentration of heavy metals in all sewage sludge batches has not exceeded the indicators conforming with Class 1, testing, in order to determine such metals, may be reduced twofold, but should be performed at least once per year.
- 2.\*\* The dry matter content in individual samples shall be determined immediately following the collection thereof.
- 3.\*\*\* If treatment plants treat only municipal sewage, the mass concentration of heavy metals need not be determined.

Minister for the Environment

R. Vējonis

**Quality Indicators and Testing Methods to Be Determined in an Average Sample of Sewage Sludge and the Compost Batch thereof**

Table 1

No.	Heavy metals	Methods*	
		for the preparation of samples	for testing
1.	Cadmium (Cd)	LVS ISO 11466:1995	LVS ISO 11047:2003
2.	Chrome (Cr)	LVS ISO 11466:1995	LVS ISO 11047:2003
3.	Copper (Cu)	LVS ISO 11466:1995	LVS ISO 11047:2003
4.	Mercury (Hg)	LVS 346:2005	LVS 346:2005
5.	Nickel (Ni)	LVS ISO 11466:1995	LVS ISO 11047:2003
6.	Lead (Pb)	LVS ISO 11466:1995	LVS ISO 11047:2003
7.	Zinc (Zn)	LVS ISO 11466:1995	LVS ISO 11047:2003

Note.

\* Other atomic absorption spectrophotometry methods may also be utilised the detecting limits of which are not higher than Cd - 1 mg/kg, Cr - 12 mg/kg, Cu - 5 mg/kg, Ni - 12 mg/kg, Pb - 15 mg/kg, Hg – 0.2 mg/kg and Zn - 10 mg/kg.

Table 2

No.	Agrochemical indicators	Testing methods
1.	Environment reaction (pH <sub>KCl</sub> )	LVS ISO 10390:2002
2.	The amount of organic substances (%)	LVS ISO 10694:1995
3.	Nitrogen (N) in the dry matter (g/kg)	LVS ISO 11261:2002
4.	Ammoniacal nitrogen (N-NH <sub>4</sub> ) in the dry matter (g/kg), extracting KCl	ISO/TS 14256-1:2003 ISO 14256-2:2005 (E)
5.	Phosphorus (P) in the dry matter (g/kg)	LVS 398: 2002 EN 14672:2005
6.	Dry matter (%)	LVS ISO 11465:1993 LVS EN 12880

Minister for the Environment

R. Vējonis

### Sewage Sludge Quality Certificate

Batch No. \_\_\_\_\_

\_\_\_\_\_ (place) \_\_\_\_\_ (date)  
1. Producer of sewage sludge

\_\_\_\_\_  
(given name, surname and personal identity number of the natural person, or the firm name, registration number of the legal person)

2. Number and the date of issue of the permit for carrying out Category A, B polluting activities or Category C certification or water utilisation permit \_\_\_\_\_

\_\_\_\_\_  
(regional environmental board which issued the permit or certification)

3. Period of sewage sludge batch accumulation:  
3.1. date of commencement \_\_\_\_\_  
3.2. date of end \_\_\_\_\_

4. Mass of the batch of sewage sludge (tonnes):  
4.1. naturally wet \_\_\_\_\_  
4.2. dry matter \_\_\_\_\_

5. Type of processing of the sewage sludge batch \_\_\_\_\_

6. Place of storage of sewage sludge at the moment of drawing up the quality certificate  
\_\_\_\_\_  
(name)

7. Sewage sludge quality indicators:

Table 1

No.	Agrochemical indicators	Test results
1.	Environment reaction (pH KCl)	

2.	Organic substances in the dry matter (%)	
3.	Total nitrogen(N) in the dry matter (g/kg)	
4.*	Ammoniacal nitrogen (N – NH <sub>4</sub> ) in the dry matter (g/kg)	
5.	Phosphorus (P) in the dry matter (g/kg)	
6.	Dry matter (%)	

Note.

\* Shall be determined only if sewage sludge is used in agriculture for soil fertilisation.

Tested in \_\_\_\_\_ laboratory.

for the year 200\_\_ \_\_\_\_\_ Test report No. \_\_\_\_\_

Table 2

No.	Heavy metals	Concentration in dry matter (mg/kg)
1.	Cadmium (Cd)	
2.	Chrome (Cr)	
3.	Copper (Cu)	
4.	Mercury (Hg)	
5.	Nickel (Ni)	
6.	Lead (Pb)	
7.	Zinc (Zn)	

Tested in \_\_\_\_\_ laboratory.

for the year 200\_\_ \_\_\_\_\_ Test report No. \_\_\_\_\_

Class of sewage sludge \_\_\_\_\_  
(in words)

Producer of sewage sludge \_\_\_\_\_  
(signature and full name)

Minister for the Environment R. Vējonis



### Sewage Sludge Compost Quality Certificate

Batch No. \_\_\_\_\_

\_\_\_\_\_ (place) \_\_\_\_\_ (date)

1. Producer of sewage sludge compost \_\_\_\_\_

\_\_\_\_\_ (given name, surname,

\_\_\_\_\_ personal identity number of the natural person or the firm name, registration number of the legal person)

2. Components of sewage sludge compost:

2.1. sewage sludge \_\_\_\_\_

\_\_\_\_\_ (producer, batch number)

2.2. additional materials \_\_\_\_\_

2.3. ratio of sewage sludge and additional materials \_\_\_\_\_

3. Preparation of sewage sludge compost:

3.1. date of commencement \_\_\_\_\_

3.2. date of end \_\_\_\_\_

4. Mass of the batch of sewage sludge compost (tonnes):

4.1. naturally wet \_\_\_\_\_

4.2. dry matter \_\_\_\_\_

5. Place of storage of sewage sludge compost at the moment of drawing up the quality certificate

\_\_\_\_\_ (name)

6. Sewage sludge compost quality indicators.

Table 1

No.	Agrochemical indicators	Test results
1.	Environment reaction (pH KCl)	
2.	Organic substances in the dry matter (%)	
3.	Nitrogen (N) in the dry matter (g/kg)	
4.*	Ammoniacal nitrogen (N – NH <sub>4</sub> ) in the dry matter (g/kg)	

5.	Phosphorus (P) in the dry matter (g/kg)	
6.	Dry matter (%)	

Note.

\* Shall be determined only if the sewage sludge compost is utilised in agriculture for soil fertilisation.

Tested in \_\_\_\_\_ laboratory.

for the year 200\_\_ \_\_\_\_\_ Test report No. \_\_\_\_\_

Table 2

No.	Heavy metals	Concentration in dry matter (mg/kg)
1.	Cadmium (Cd)	
2.	Chrome (Cr)	
3.	Copper (Cu)	
4.	Mercury (Hg)	
5.	Nickel (Ni)	
6.	Lead (Pb)	
7.	Zinc (Zn)	

Tested in \_\_\_\_\_ laboratory.

for the year 200\_\_ \_\_\_\_\_ Test report No. \_\_\_\_\_

Class of sewage sludge \_\_\_\_\_  
(in words)

Producer of sewage sludge \_\_\_\_\_  
(signature and full name)

Minister for the Environment

R. Vējonis

**Register of Quality Certificates of Sewage Sludge and Compost Batches thereof and  
Certifications for the Utilisation (Burial) of Sewage Sludge and Composts thereof**

1. Producer of sewage sludge or the compost thereof \_\_\_\_\_  
(given name, surname,

personal identity number of the natural person or the firm name, registration number of the legal person)

2. Number of the permit for the polluting activity of Categories A, B or certification of Category C, or permit for the utilisation of water \_\_\_\_\_

3. Date of issue of the permit for the polluting activity of Categories A, B or certification of Category C, or permit for the utilisation of water \_\_\_\_\_

\_\_\_\_\_  
(regional environmental board which has issued a permit or certification)

3. Register commenced \_\_\_\_\_  
(date)

4. Register completed \_\_\_\_\_  
(date)

I certify the accuracy of entries in the Register \_\_\_\_\_  
(signature and full name)

No.	Name of the document	Serial number of sewage sludge and the compost thereof	Date of drawing up of the document	Recipient of the copies of document		
				legal or natural person	address	signature
1	2	3	4	5	6	7

Minister for the Environment

R. Vējonis

**Classification of Sewage Sludge and the Compost thereof**

No.	Class*	Mass concentration of heavy metals in dry matter (mg/kg)						
		Cd	Cr	Cu	Hg	Ni	Pb	Zn
1.	I	≤ 2.0	≤ 100	≤ 400	≤ 3.0	≤ 50	≤ 150	≤ 800
2.	II	2.1-5.0	101-250	401-500	3.1-5.0	51-100	151-250	801-1500
3.	III	5.1-7.0	251-400	501-600	5.1-7.0	101-150	251-350	1 501-2 200
4.	IV	7.1-10	401-600	601-800	7.1-10	151-200	351-500	2 201-2 500
5.	V	> 10	> 600	> 800	> 10	> 200	> 500	> 2 500

Note.

\* If the mass concentration of only one heavy metal exceeds the relevant indicator of the highest class by no more than 30%, such sewage sludge and the compost thereof shall be included in the highest class.

Minister for the Environment

R. Vējonis

**Indicators to Be Determined in an Average Sample of the Soil Surface Layer and  
 Testing Methods in Agricultural Areas**

No.	Indicators	Methods*	
		for the preparation of samples	for testing
1.	Cadmium (Cd)	LVS ISO 11466	LVS ISO 11047
2.	Chrome (Cr)	LVS ISO 11466	LVS ISO 11047
3.	Copper (Cu)	LVS ISO 11466	LVS ISO 11047
4.	Mercury (Hg)	LVS 346	LVS 346
5.	Nickel (Ni)	LVS ISO 11466	LVS ISO 11047
6.	Lead (Pb)	LVS ISO 11466	LVS ISO 11047
7.	Zinc (Zn)	LVS ISO 11466	LVS ISO 11047
8.	Reaction (pH KCl)	–	LVS ISO 10390

Note.

\* Other atomic absorption spectrophotometry methods may also be utilised the limit values of analysis methods of which are not higher than Cd – 0.10 mg/kg, Cr – 1.0 mg/kg, Cu – 1.5 mg/kg, Hg – 0.10 mg/kg, Ni – 2.0 mg/kg, Pb – 3.5 mg/kg un Zn – 5.0 mg/kg.

Minister for the Environment

R. Vējonis

**Limit of Mass Concentration of Heavy Metals for Cultivation of Sewage Sludge and the  
 Compost thereof in the Soil Surface Layer (mg/kg)**

No.	Metals	pHKCl 5-6		pHKCl 6.1-7		pHKCl >7	
		sand, sandy loam	loamy soil, loam	sand, sandy loam	loamy soil, loam	sand, sandy loam	loamy soil, loam
1.	Cd	0.50	0.60	0.60	0.70	0.80	0.90
2.	Cr	40	50	60	70	80	90
3.	Cu	15	25	35	50	55	70
4.	Hg	0.10	0.20	0.25	0.35	0.40	0.50
5.	Ni	15	25	35	50	60	70
6.	Pb	20	25	25	30	35	40
7.	Zn	50	65	70	80	90	100

Minister for the Environment

R. Vējonis

**Limit of Mass Concentration of Heavy Metals in Sewage Sludge and the Compost thereof Intended for Fertilisation of Soil and Recovery or Disposal in Municipal Waste Landfill Sites and Dumps**

No.	Heavy metals	Mass concentration in dry matter (mg/kg)
1.	Cadmium (Cd)	10
2.	Chrome (Cr)	600
3.	Copper (Cu)	800
4.	Mercury (Hg)	10
5.	Nickel (Ni)	200
6.	Lead (Pb)	500
7.	Zinc (Zn)	2500

Minister for the Environment

R. Vējonis

**Limit Values of Annual Emission of Heavy Metals in Agricultural Land**

No.	Heavy metals	On average for a period of seven years (g/ha per year)	
		sand, sandy loam	loamy soil, loam
1.	Cadmium (Cd)	30	35
2.	Chrome (Cr)	600	700
3.	Copper (Cu)	1000	1200
4.	Mercury (Hg)	8	10
5.	Nickel (Ni)	250	300
6.	Lead (Pb)	300	350
7.	Zinc (Zn)	5000	6000

Minister for the Environment

R. Vējonis



**Annual Emission Limit Values of Nitrogen and Phosphorus Cultivated in Agricultural Land with Sewage Sludge and the Compost thereof**

1. The annual emission limit value of ammoniacal nitrogen (N-NH<sub>4</sub>) - 30 kg/ha.
2. The annual emission limit value of total phosphorus (P) – 40 kg/ha.

Minister for the Environment

R. Vējonis

**Limit Proportions of Dry Matter of Sewage Sludge and the Compost thereof for the  
Recovery of Degraded Areas (t/ha)**

No.	Sludge class	Gravel, sand, sandy loam	Loamy soil, loam
1.	I	250	350
2.	II	140	200
3.	III	90	130
4.	IV	60	90

Minister for the Environment

R. Vējonis

**Mass, Quality and Utilisation (Burial, Placement) of Sewage Sludge Batch No. \_\_\_\_\_  
Produced in an Accounting Year**

1. Period of accumulation of the sewage sludge batch:

1.1. date of commencement \_\_\_\_\_

1.2. date of end \_\_\_\_\_

2. Mass of sewage sludge.

Table 1

No.	Naturally wet (t)	Average content of dry matter of naturally wet sludge (%)	Dry matter (t)
1	2	3	4

3. Quality of sewage sludge

Table 2

No.	Parameters and units of measurements	Mass concentration of parameters in the dry matter	Sample testing laboratory	Methodology of sample testing	Report number of sample testing	Date of issue of the sample testing report
1	2	3	4	5	6	7
1.	Reaction (pH KCl)					
2.	Organic substances %					
3.	Nitrogen (N) g/kg					
4.	Phosphorus (P) g/kg					
5.	Cadmium (Cd) mg/kg					
6.	Chromium (Cr) mg/kg					

7.	Copper (Cu) mg/kg					
8.	Mercury (Hg), mg/kg					
9.	Nickel (Ni) mg/kg					
10.	Lead (Pb) mg/kg					
11.	Zinc (Zn) mg/kg					

4. Utilisation (burial) of sewage sludge.

Table 3

No.	Type of utilisation	Mass of utilised sludge (t)		User of sewage sludge (receiver)	
		naturally wet	dry matter	natural or legal person	address
1.	In agriculture for soil fertilisation				
2.	In forestry				
3.	For the recovery, greening of waste dumps and degraded areas				
4.	Buried in waste dumps and landfill sites				
5.	For composting				
6.	Other				
7.	In temporary storage of the sewage sludge producer				

Minister for the Environment

R. Vējonis

**Utilisation (Burial) of Sewage Sludge Produced in Previous Years in the Accounting Year**

No.	Type of utilisation	Batch number	Batch accumulation period	Sludge mass utilised (buried)(t)		User of sewage sludge (receiver)	
				naturally wet	dry matter	natural or legal person	address
1.	In agriculture for soil fertilisation						
2.	In forestry						
3.	For the recovery, greening of waste dumps and degraded areas						
4.	Disposed in waste dumps and landfill sites						
5.	For composting						
6.	Other						
7.	In temporary storage of the sewage sludge producer						

Minister for the Environment

R. Vējonis